

How can Fintech serve the unbanked in Sub-Saharan Africa?

Unlocking financial inclusion in Sub- Saharan Africa

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Abstract – *How can Fintech serve the unbanked in Africa?*

Sub-Saharan Africa (SSA) is the global leader in mobile-money innovation, adoption and usage. However, it is also one of the regions with the largest unbanked population, so there are still many people to serve.

Digital technologies may reduce this population by partnering with incumbent financial services, helping in achieving the World Bank's goal of full financial inclusion by 2020, by creating new digital products that truly solve the poorest populations' problems.

Fintech may leverage the widespread smartphone adoption to offer financial services in Sub-Saharan Africa.

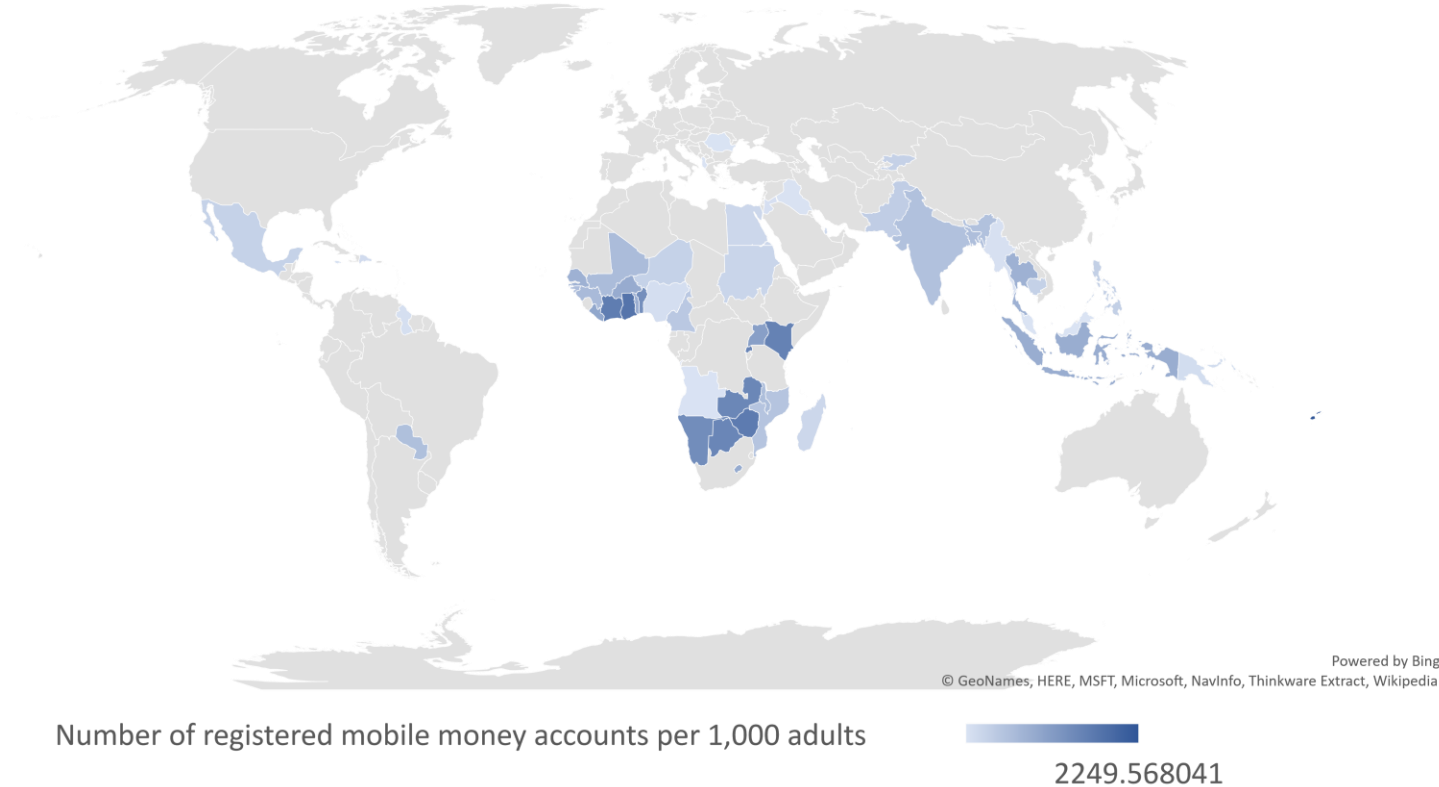
However, governments must reduce barriers to improve financial inclusion through economic digitalization.

Keywords: history, partnerships, unbanked, inclusion

4.1 LEADING MOBILE-MONEY (1/3)

Sub-Saharan Africa is the global leader in mobile-money innovation, adoption and usage

55. SSA is the global leader in mobile-money (2018)¹



Two distinguishing features of SSA enabled mobile-money:

1) High level of mobile phone penetration, 77%²

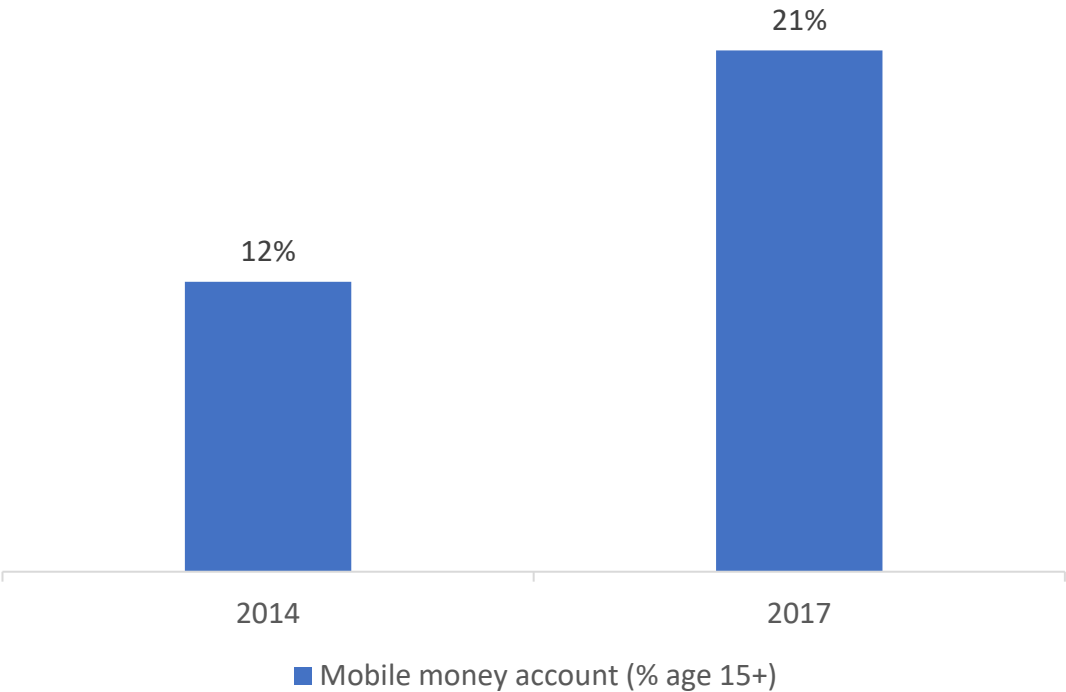
2) Millions of people do not hold traditional bank accounts

The main driver of financial inclusion in Africa is mobile-money: the **number** of adults in SSA with a **mobile-money account** is the **highest in the world**. However, it is also one of the regions with the biggest unbanked population, thus there are still many people to serve.

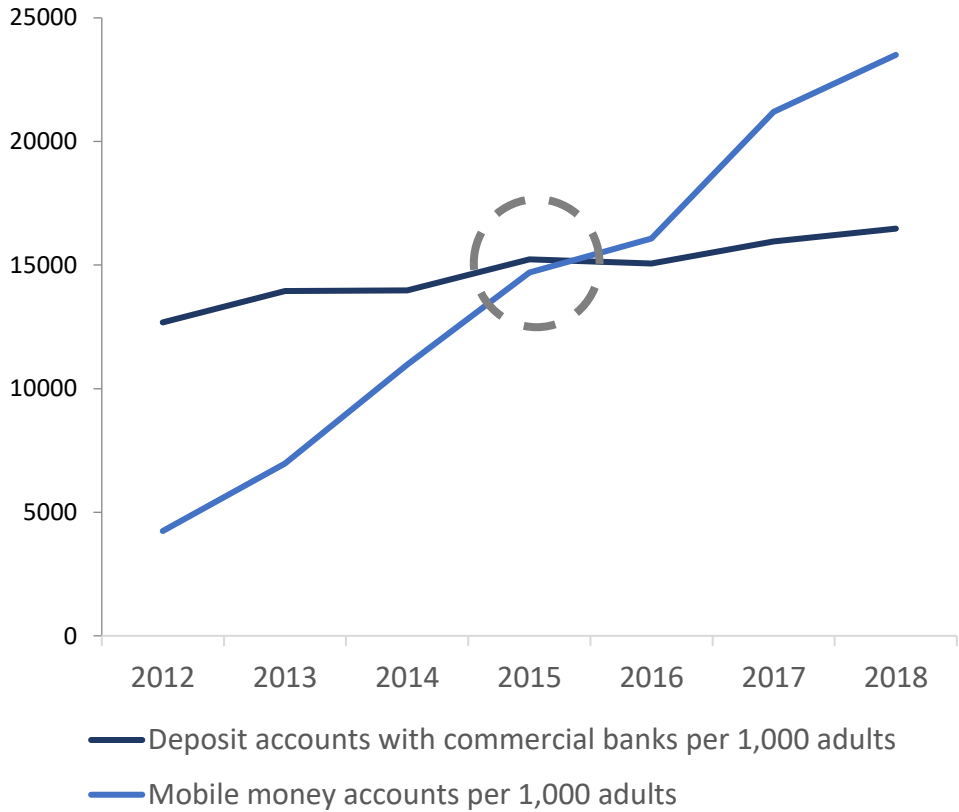
4.1 LEADING MOBILE-MONEY (2/3)

Mobile-money accounts have been growing massively and have already overtaken traditional accounts

56. From 2014 to 2017 the percentage of adults with a mobile-money account in SSA has almost doubled to 21%³



57. Mobile-money accounts have now overtaken traditional bank accounts in SSA¹

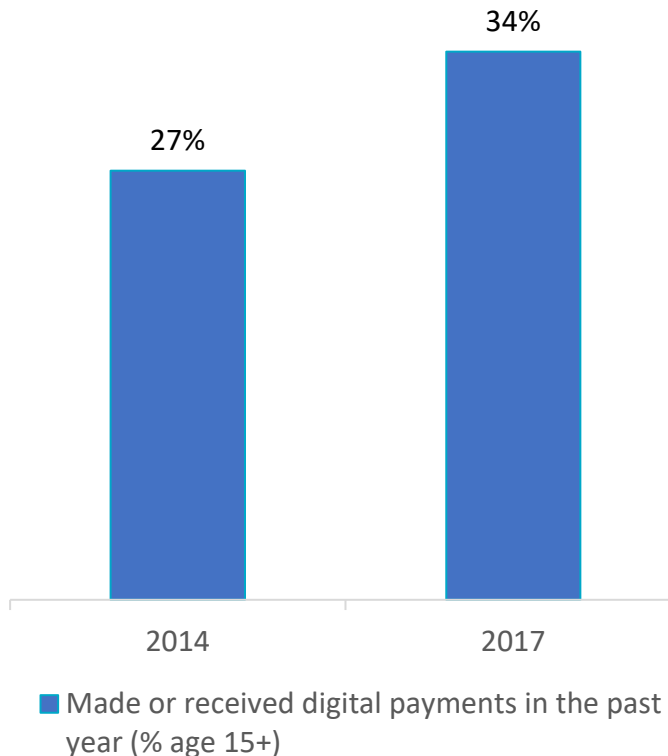


Sources : 1. IMF. 2019. "Financial Access Survey." Accessed December 26. <http://data.imf.org/?sk=E5DCAB7E-A5CA-4892-A6EA-598B5463A34C&slid=1460054136937>. | 3. Demircuc-Kunt, Asli, Leora Klapper, Dorothe Singer, Saniya Ansar, and Jake Hess. 2018. *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution*. <https://doi.org/10.1596/978-1-4648-1259-0>.

4.1 LEADING MOBILE-MONEY (3/3)

Digital payments are the fastest growing area within mobile money in SSA, being M-PESA the most successful example of mobile-money in Africa

58. Payments transactions in SSA increased from 27% to 34% from 2014 to 2017³



Kenya is in the frontline of digital payments...

M-PESA

- Introduced in **2007**⁴, by Vodafone in partnership with Safaricom in Kenya. Allows to **exchanging cash for virtual currency** and vice versa, to **make payments by simply sending a message** by mobile phone and even to pay bills.
- Nowadays, **73%**⁵ of all adults in Kenya have a **mobile-money account** thanks to M-PESA, which currently has 26m registered users.

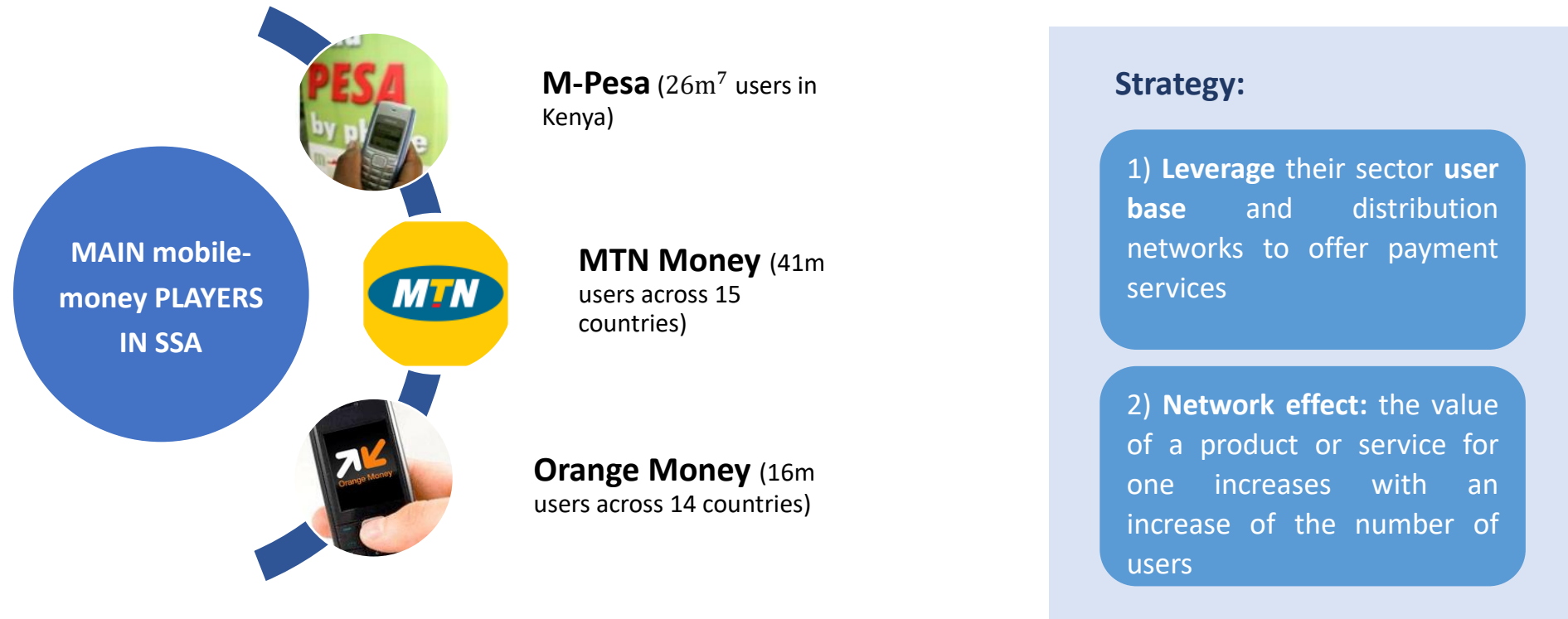


M-KOPA

- **Pay-as-you-go model for solar energy** systems, with payments **through M-PESA, via an API portal**. It requires a first \$35 deposit, followed by 365 payments of 45 cents.
- **375 000**⁶ homes across East Africa now have solar electricity.

4.1.1 MAIN MOBILE-MONEY PLAYERS (1/2)

Mobile Network Operators (MNOs), composed by telecom companies, are the main African disruptors, dominating the mobile-money services in SSA

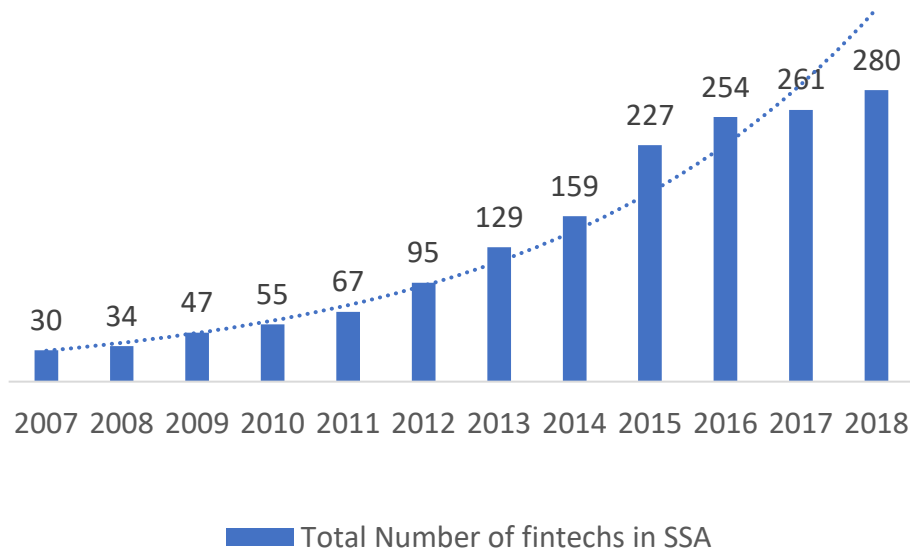


In Africa, MNOs dominate, putting on practice the approach mentioned above and thus attaining more consumers. Therefore, **MNOs lead the market**, having from **five to ten times more customers than bank-centric approaches**, for example, FNB and Equitel⁷.

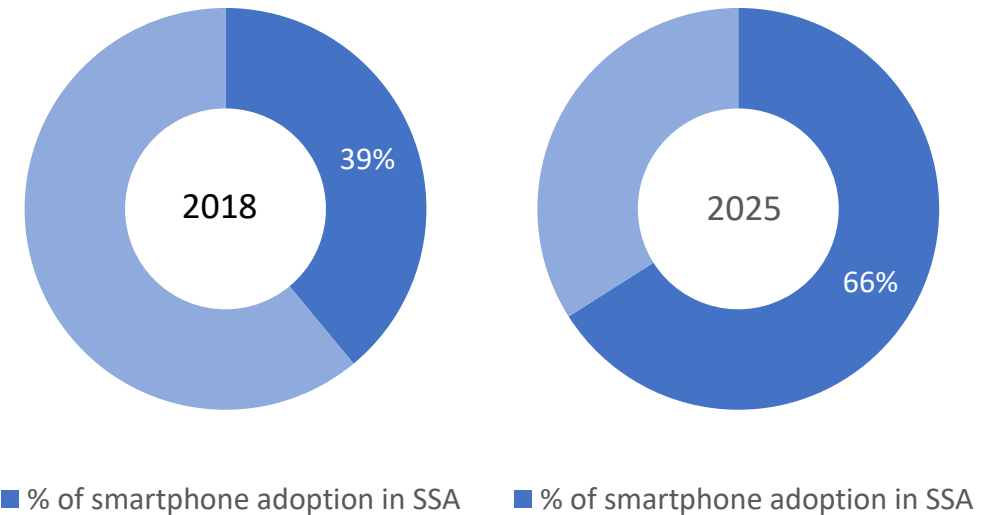
4.1.2 MAIN MOBILE-MONEY PLAYERS (2/2)

However, that's likely to change with more Fintech firms in the market and as smartphones triumph, we must anticipate a stronger position from tech giants

59. The number of Fintech firms in SSA has been increasing⁸



60. Global smartphone adoption in SSA is expected to rise to 66% by 2025⁹



- As the cost of data storing and computing power has significantly dropped and data analytics has become mainstream, **more fintech firms are likely to appear**. The role of **international players in SSA is also expected to rise** as the number of Fintech firms grows.
- Mobile-money services in sub-Saharan Africa are still highly dependent on traditional USSD communication. However, as **smartphones become more affordable**, the adoption and use of smartphones are likely to increase. **This could give Google**, through Android, **and other tech and social media giants a benefit** in the next years.

Recently, mobile-money has expanded to mobile-banking, including microcredit, savings and insurance



Microcredit

- The credit market in Africa is under-developed, taking place mainly through informal ways. However, new business models, especially microfinance are starting to appear.



Savings

- Saving is an extremely important tool as it decides the funds available for future generations and the development of the country. Nevertheless, in developing countries, savings usually takes place through informal ways.



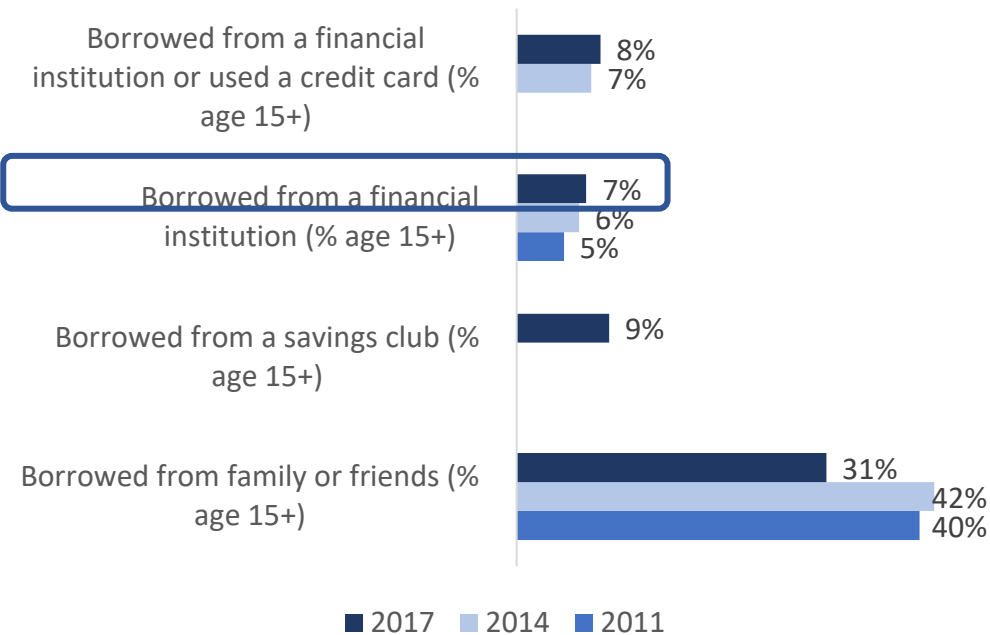
Insurance

- The insurance market in SSA is under-developed, however, some solutions started to appear, such as microinsurance. Airtel was succeeded in doing this in Ghana and ACRE Africa in Kenya.

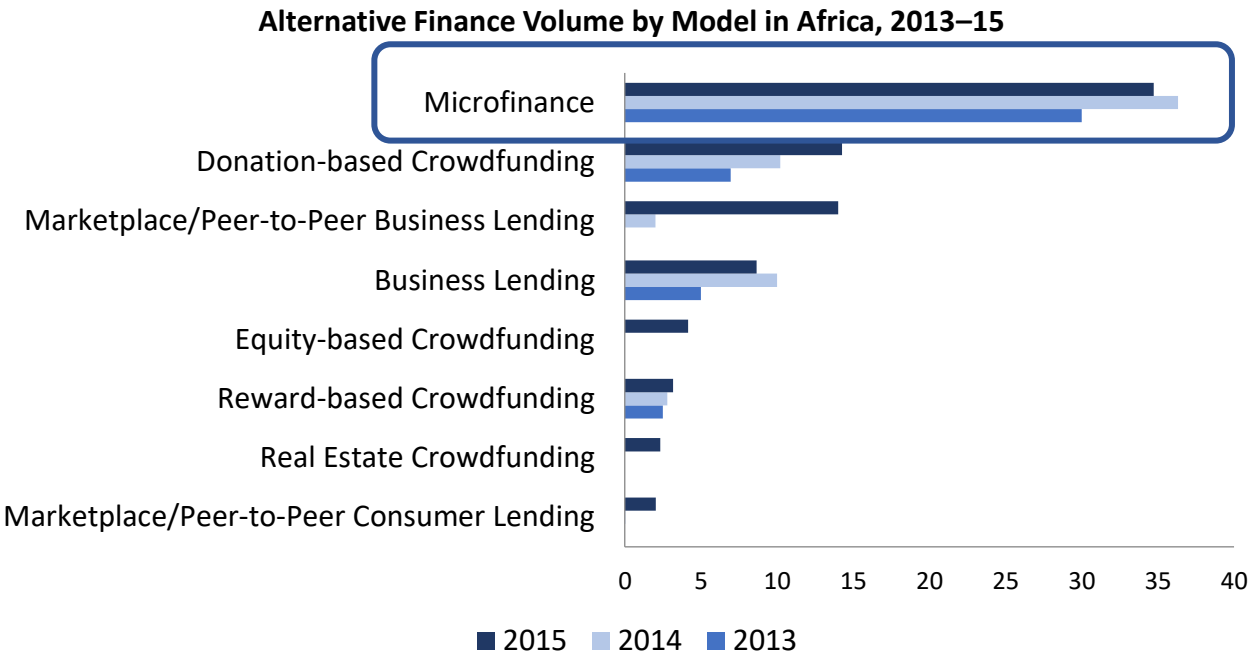
4.2.1 MICROCREDIT (1/2)

The credit market in Africa is under-developed, taking place mainly through informal ways, whilst, new business models are solving this phenomenon

61. The main sources of borrowing takes place trough informal ways, only 7% of adults borrowed money from a financial institution in 2017³



62. Microfinance is one of the most popular models of alternative finance nowadays¹¹



- The **high costs of interest rates** in developing countries, due to their high risk, remains a major constraint to firms in order to access credit. However, mobile-money allowed the creation of other business models such as microcredit. Microcredit¹² **also called microfinance, is defined as the facility of small amounts of credit** to the deprived and the marginalized.
- Most financial regulatory frameworks forbid the provision of credit facilities by MNOs, thus they have to create strong partnerships with banks to provide loans.

Sources: 3. Demirguc-Kunt, Asli, Leora Klapper, Dorothe Singer, Saniya Ansar, and Jake Hess. 2018. *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution*. <https://doi.org/10.1596/978-1-4648-1259-0>. | 11. Zhang, Bryan, Robert Wardrop, Kieran Garvey, Simon Collings, Tania Ziegler, Garrick Hilemen, Raghavendra Rau, et al. 2017. "The Africa and Middle East Alternative Finance," no. February: 63. <http://www.whitelabelcrowd.fund/wp-content/uploads/2017/02/2017-africa-middle-east-alternative-finance-report.pdf>. | 12. Gabor, Daniela, e Sally Brooks. 2017. «The digital revolution in financial inclusion: international development in the fintech era». *New Political Economy* 22 (4): 423–36. doi:10.1080/13563467.2017.1259298.

4.2.1 MICROCREDIT (2/2)

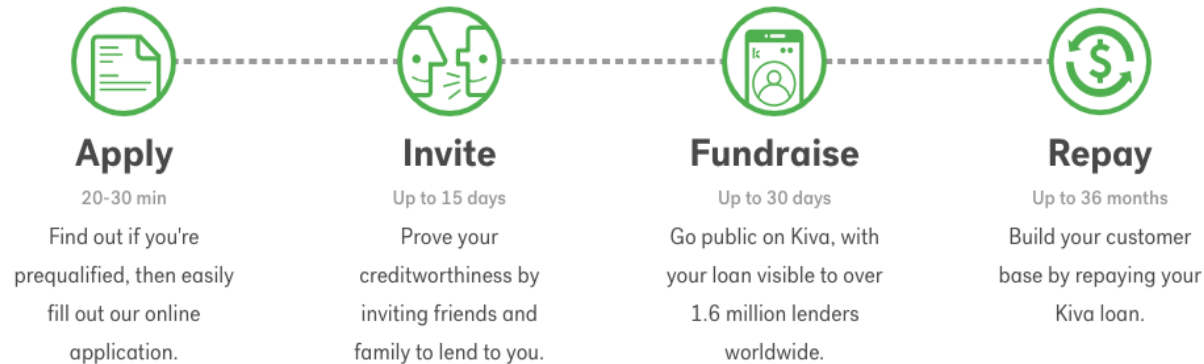
In recent years, new technologies have also facilitated the growth of several business models, such as of crowdfunding and peer-to-peer lending

EXAMPLES

SALONE MICROFINANCE TRUST¹⁴ (SMT):

- A platform for training low-income entrepreneurs, via an app, on subjects as entrepreneurship, business matters and financial literacy.
- The users then **may qualify for credit products** provided by SMT and other lending partners.

63. Kiva's process¹³



KIVA:

- **Crowdlending platform** to offer **small loans** collected from individuals from around the world.
- Lenders are given the **choice to keep their loan** within the system to support more entrepreneurs **or withdraw it once they are repaid**.

- **P2P lending** is the “direct lending from savers to borrowers, avoiding bank intermediation”, through an online platform or mobile phone. **Some of them use crowdfunding** as a way to generate funds.
- These platforms charge much **lower interest rates** than banks since the use of technology enabled them to reduce the operational costs and use alternative credit scoring models, as at the same time **they are building a credit history for the poor**. **However**, this is still a **very unregulated market** and raise some **concerns about data privacy and discrimination or weak identification of clients**, when the data is limited or not of good quality.

4.2.1.1 ALTERNATIVE CREDIT SCORING (1/2)

There are a lot of people that are still unable to get credit due to credit scoring, even though there are already solutions in order to solve this problem

Problem



- Approximately **1.5 billion people in the world don't have an identity document**¹⁵, which excludes them from accessing formal financial products and services and the **cost of credit risk assessment remains high in SSA**.
- One of the goals of the United Nations is to provide legal identity for all by 2030.

Solutions

01

Market-driven

Group Lending

Non-financial payment streams

Social and online footprints

Psychometric tests

Data-driven

02



The most traditional way to develop credit scoring is based on lending-circles. However, a series of experiments using alternative data is now appearing

Market-driven

Group lending¹⁶

- At the start, microfinance was basically **group lending**, where the borrowers had the possibility to choose small groups to lend their money.
- This phenomenon was studied by Stiglitz, having found that this model **transfers the risk from the lender to the borrower, which reduces moral hazard and adverse selection.**

64. Group Lending example



Data-driven¹⁷

Credit scoring using payments

- **Based on payments**, like energy utilities, telecommunication and rent payments, as proxies for credit records.

Credit scoring using social and online footprints

- Use of a **broader range of data**, such as academic records, legal information, employment history, address changes and digital footprint.
- Ex: Social Lending: offers loans to consumers based on their social reputation

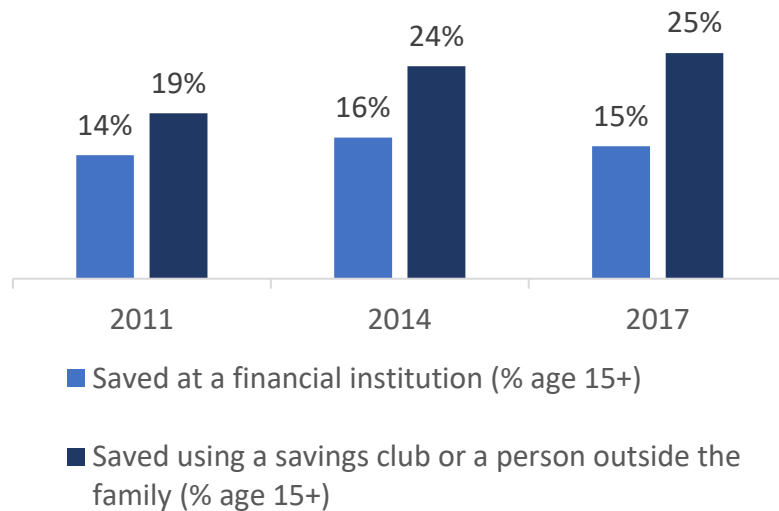
Psychometric tests

- Tests designed to **determine behavioural and cognitive capacities and make judgements** of creditworthiness based on that.
- Characteristics like optimism, autonomy and acumen are associated with creditworthiness.

4.2.2 SAVINGS

Saving is a vital tool as it decides the funds available for future generations, whilst in SSA savings usually takes place through informal ways

65. In SSA people use more informal savings than formal ones³



- The most common way of saving in SSA is the **saving clubs (tontines)** - an arrangement between a small group of people, where each one makes a certain contribution periodically and at the end of each period the total is distributed to a different member.
- Another very common way in the region is to **use a person outside the family** to save their money.

However, MNOs are starting to distribute interest to mobile-money customers via¹⁰:

Regular mobile-money account

Interest based on the m-wallet account balance

Ex: Tigo

MNOs do not need to create specific partnerships with banks and have full control of the operations.

Specific savings mobile-money account

Interest based on savings balance

Ex: M-Shwari

MNOs have to create partnerships with banks and are obliged to separate the savings account from the mobile wallet

Examples



Free savings account for M-PESA customers that allows them to save and borrow money while earning interest.

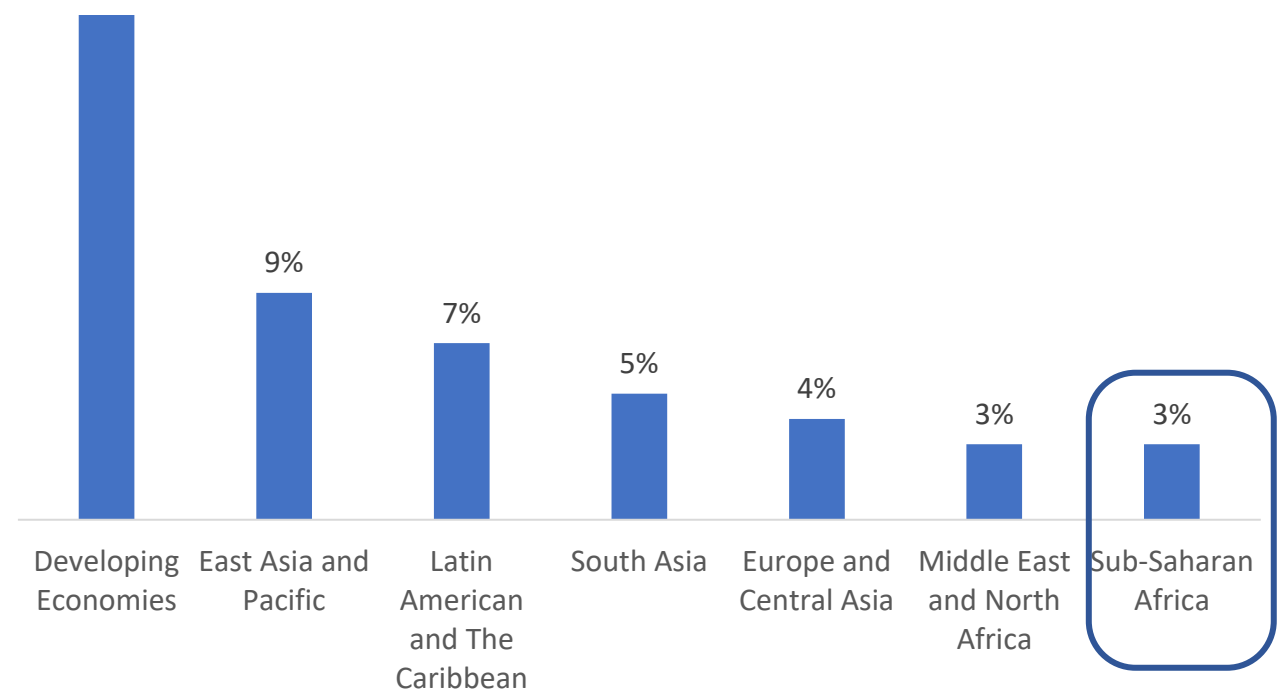


Savings service in Tanzania that pays out a quarterly return to Tigo customers, based on the average balance of cash held in their mobile-money account.

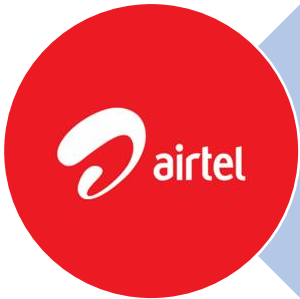
4.2.3 INSURANCE

The insurance market in SSA is under-developed, whilst microinsurance is arising with Airtel succeeding on that in Ghana and ACRE Africa in Kenya

66. Insurance is an emergent sector, only 3% of adults (aged 15+) purchased health insurance in 2011¹⁰



Examples



Free life, accident and hospital insurance in Ghana, in partnership with MicroEnsure, for prepaid customers who make a cumulative recharge of over \$1.3 per month¹⁸.



ACRE Africa¹⁹ offers to Kenya's farmers rainfall insurance for crop damage or poor harvests caused by drought or excess rainfall via mobile-money.

Microinsurance is the provision of insurance for small amounts of coverage. While payment services for insignificant quantities can be delivered by MNOs and Fintech firms, services concerning higher payments or taking deposits obliges a banking or microfinance license. Consequently, new participants also started to partner with banks to offer their products. However, insurance products are still not very used by the poor because they are too complex.

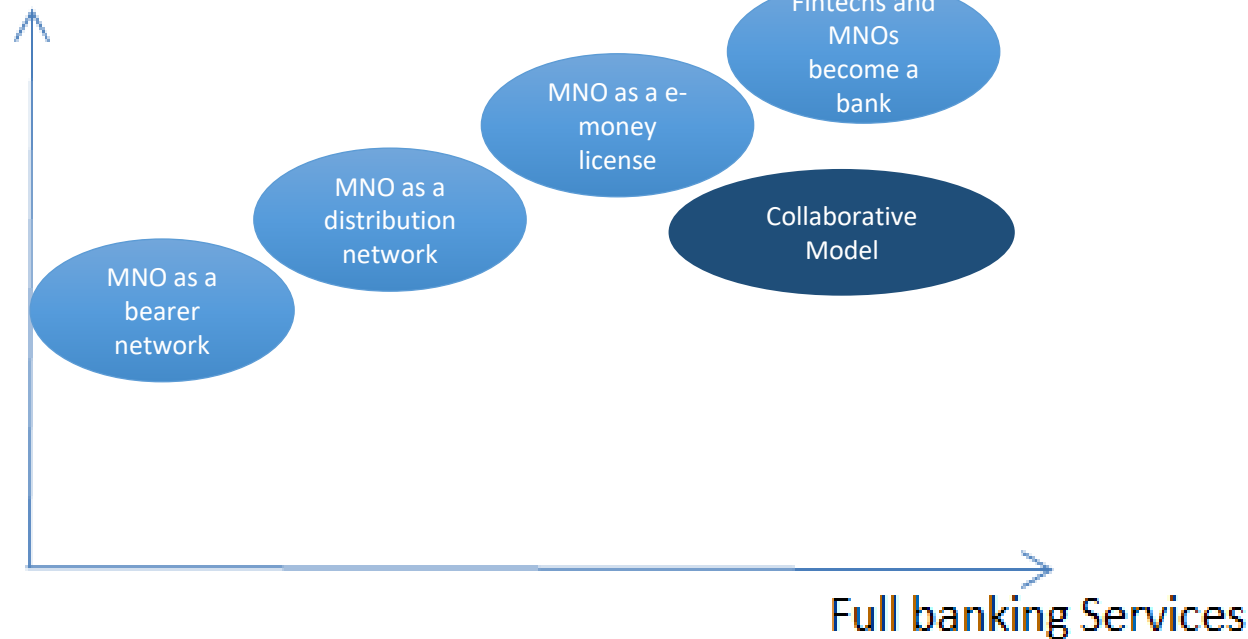
Sources: 10. Marketline.2015. «Mobile Banking Services in Africa: The Emergence of Mobile Savings, Credit and Insurance» | 812282-2.00018-8. | 19 Lim, Christian, Khalil Lakhoua, and Ziad Mazzawi. 2016. "Africa Global Fintech Revolution," 1–82. 18. Salampasis, Dimitrios, and Anne-laure Mention. 2018. "FinTech : Harnessing Innovation" 2: 451–61. <https://doi.org/10.1016/B978-0-12-4>

4.2.4 REGULATORY ISSUES

Yet, regulation has affected the provision of mobile banking , which leads to convergence between finance providers

67. Convergence between banks and operators should become even more common in the next few years¹⁰

Full banking regulation



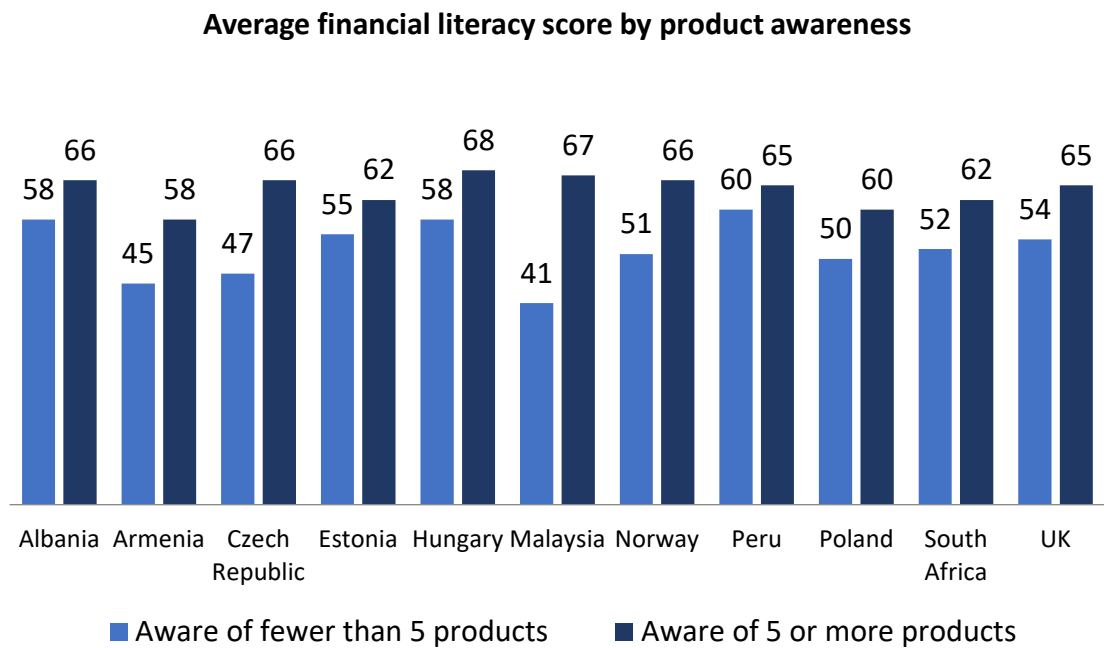
Mobile banking is pressed by **regulatory restrictions, which force convergence with financial institutions to comply with them.** Convergence will happen in diverse ways:

- 1) Massive companies will possibly create their banks
- 2) Others may acquire existing banks
- 3) Banks may acquire MNOs licenses
- 4) MNOs, banks and retailers could join ventures or make contractual partnerships

4.3 SOCIAL IMPACT (1/2)

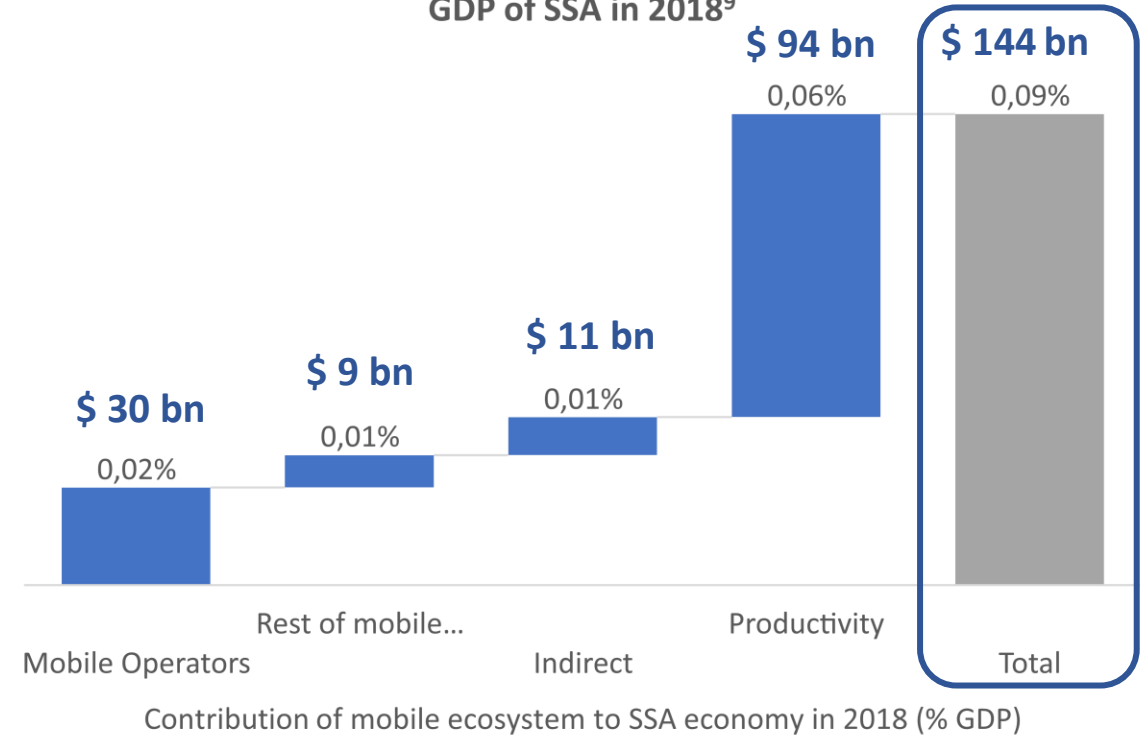
Fintech is a vital aspect of financial inclusion as it empowers people to make decisions and contribute to the GDP of the region

68. Low levels of financial literacy are often correlated with lack of access to financial products²⁰



Fintech has the **potential to increase financial literacy** as they empower people to make decisions and give them the possibility to monitor their spending.

69. The mobile ecosystem contributed with \$ 144 billions to the GDP of SSA in 2018⁹

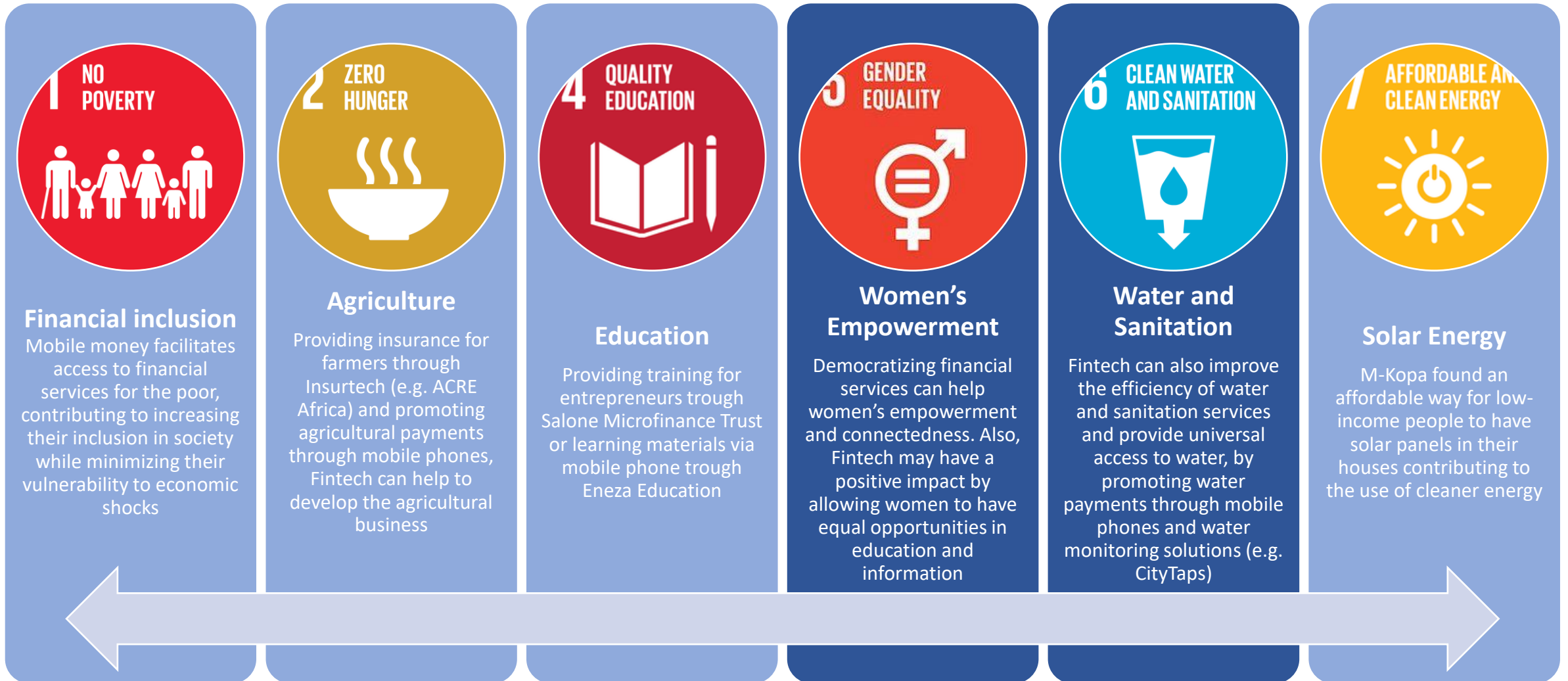


The **network effects** can also accelerate financial inclusion: financial services can generate money to invest technology, and technology can provide financial services quicker.

Sources: 20. Atkinson, Adele, e Flore-Anne Messy. 2013. «Promoting Financial Inclusion through Financial Education: OECD/INFE Evidence, Policies and Practice», October. OECD:<https://doi.org/10.1787/5k3xz6m88smp-en>. | 9. «The Mobile Economy 2019». 2019. The Mobile Economy. Accessed December 26. <https://www.gsma.com/r/mobileeconomy/>.

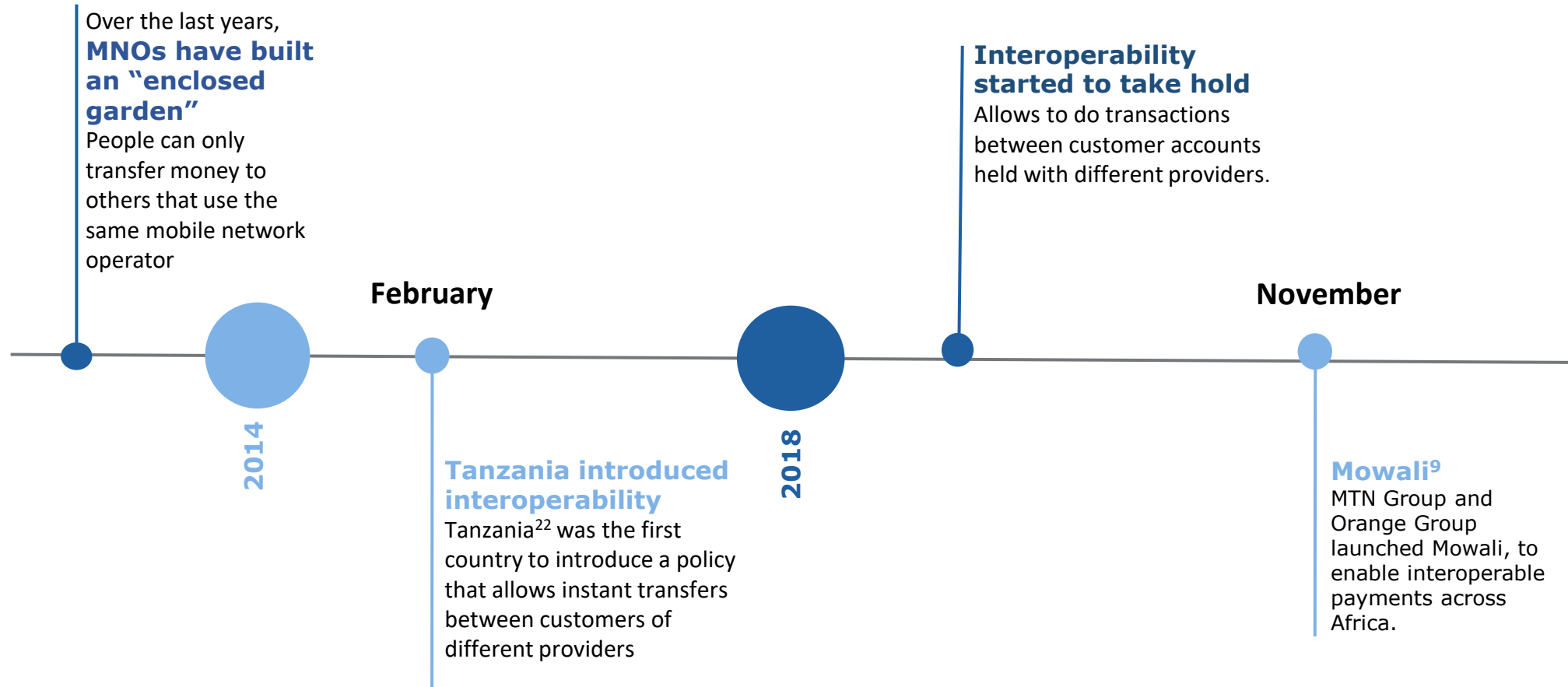
4.3 SOCIAL IMPACT (2/2)

Fintech can also help to achieve 10 out of 17 Sustainable Development Goals (SDGs) set by the United Nations²¹.



4.4 TRENDS (1/2)

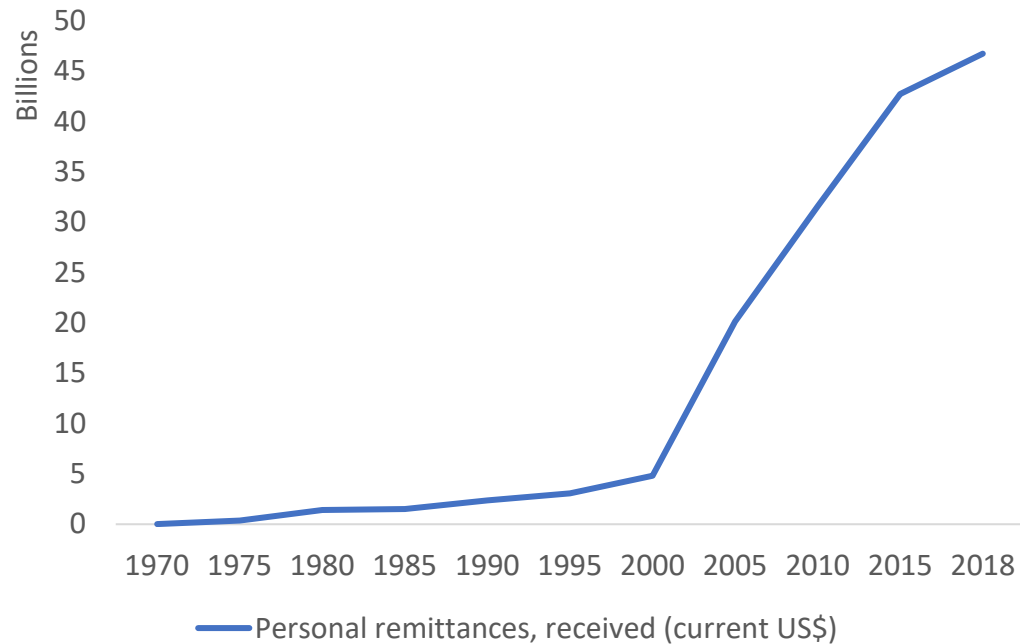
Interoperability is a strategic priority to increase the utility of mobile-money and enable increased use cases, such as international mobile remittances



4.4 TRENDS (2/2)

The number of international mobile remittances services has been growing over the past years, being the next step of mobile-money in SSA

70. The number of international mobile remittances services have been growing increasingly over the past years²³



SSA received approximately \$ 47 bn²³ of remittances in 2018

- However, a considerable amount of remittances are known to be **sent informally**, through travelling friends or family.

The cost of sending remittances to SSA is the highest globally

- **Average price** of sending money to SSA: **9.28%**²⁴ **fees** in Q4 2016, according to the World Bank.

FinTech could significantly lower the transaction costs

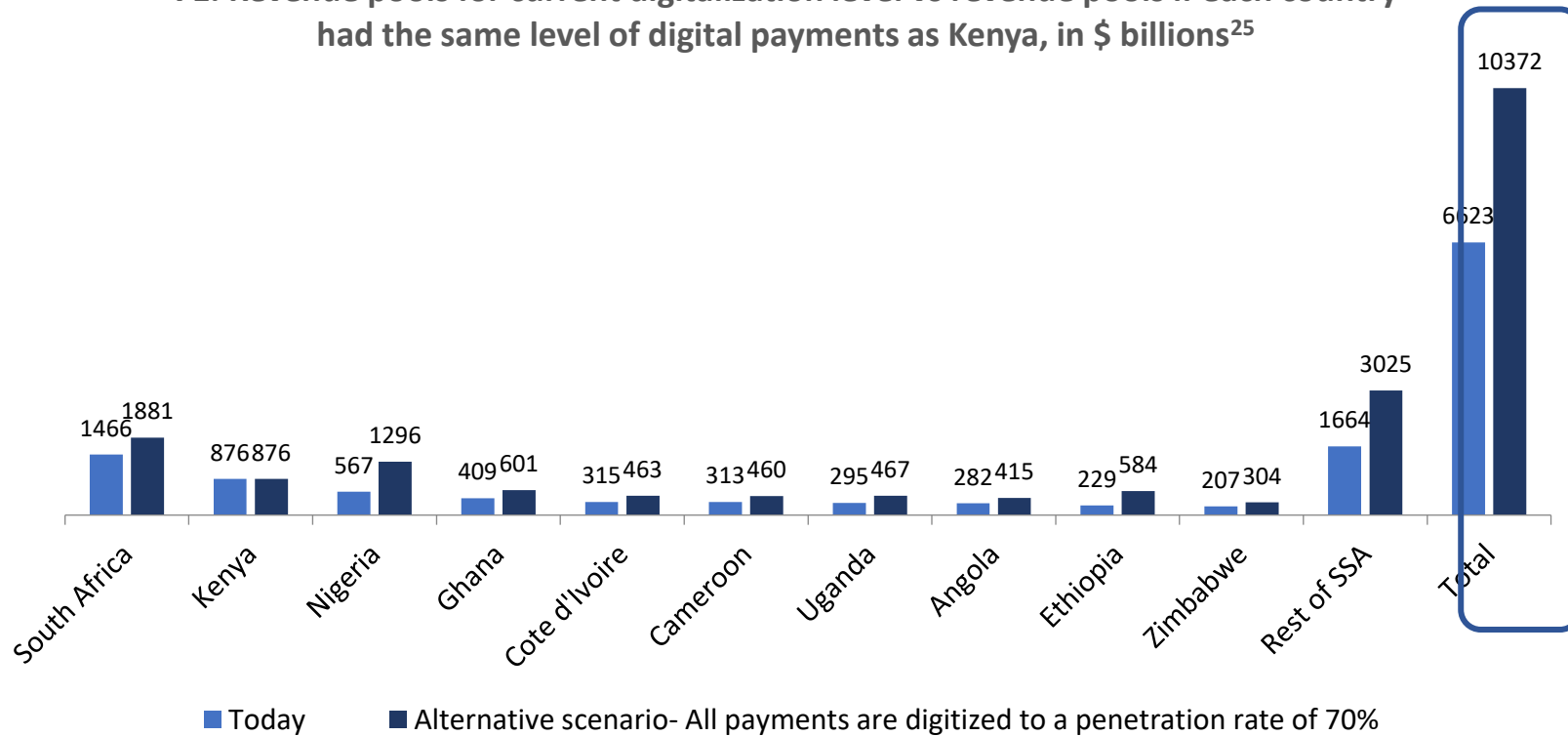
- **DLTs are being considered** to facilitate value transfer exchanges between parties without the need for cross-border intermediation, thus reducing back-office costs and formalizing many informal remittances.

MNO's are starting to invest in this market. In June 2016, Orange became the first MNO to introduce a developed country, France, into an existing African mobile-money ecosystem, i.e., **Orange Money can now be sent directly from French Orange mobiles** to Côte d'Ivoire, Mali and Senegal

4.4.1 POTENTIAL GROWTH (1/2)

The digitalization gap still persists. If all countries had 70% penetration for digital payments, like Kenya, the revenue pool could increase \$ 10 billions

71. Revenue pools for current digitalization level vs revenue pools if each country had the same level of digital payments as Kenya, in \$ billions²⁵



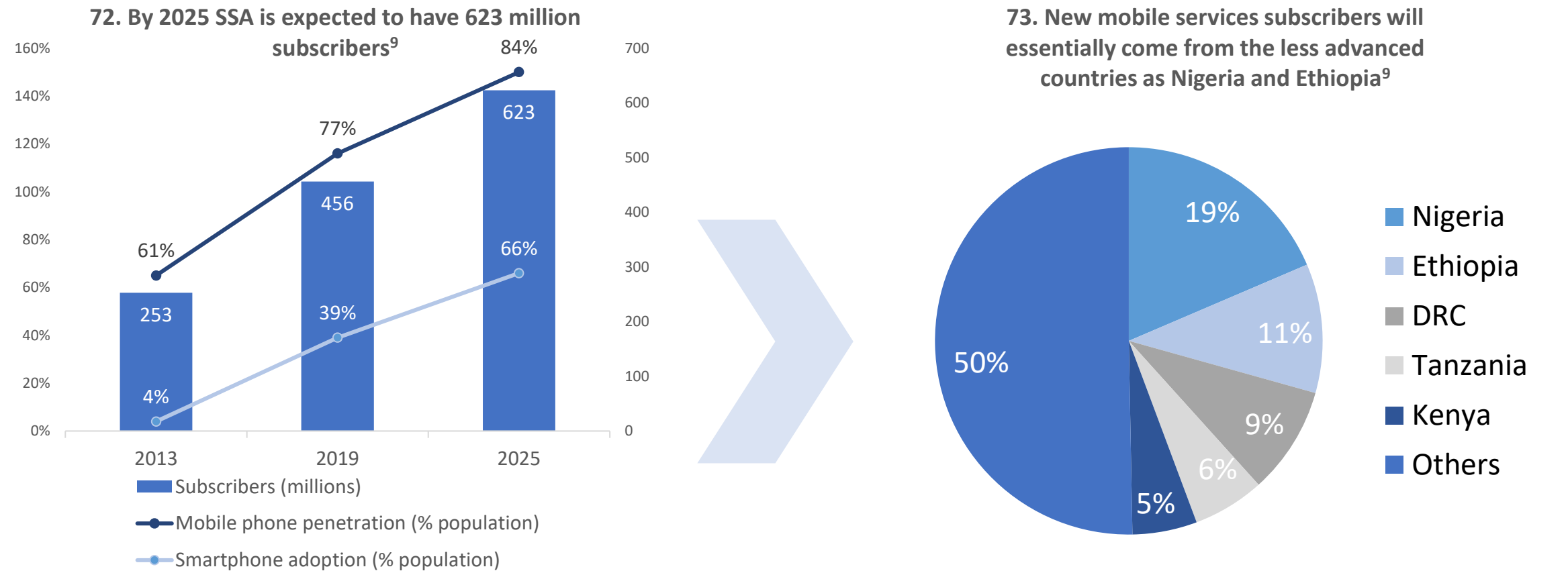
70% penetration rate for digital payments

\$ +10 Bn. revenues annual

The payment digitalization gap among Kenya and other nations in SSA still persist. If there weren't digitalization gaps among Kenya and other countries in SSA, the whole revenue for digital payments in SSA could increase by 50 to 60%, to \$10 billions per year.

Note: Alternative scenario assumes that consumers move all their payments from cash to digital to the same level as in Kenya, where 70% of all transactions are now digital. Simplifying assumption that revenues are 2% of volume.

African mobile services subscriptions have evolved positively with smartphone adoption, thus leverage smartphone adoption can increase financial growth



If SSA addresses the current market challenges, by 2050 the penetration of the financial services should ultimately reach the mobile phone penetration, 77%.

Countries would benefit if government focused on strengthening education, improving infrastructures, regulations and creating conditions for investment

	Challenges	Recommendations
Governments	<ul style="list-style-type: none"> <u>Education</u>: Lack of financial and digital literacy 	<ul style="list-style-type: none"> Strengthen the financial education of populations by facilitating the creation of education centers <p><i>"(...) include the masses and educate them by creating awareness regarding finance and how technology can make huge strides at addressing poverty" Gareth Liddell, Head of Delivery of BNRy in South Africa</i></p>
	<ul style="list-style-type: none"> <u>Infrastructures</u>: Limited internet access and reliance on traditional USSD communication 	<ul style="list-style-type: none"> Improve financial and technological infrastructures: incentivise service providers to deliver the widest possible "internet broadband and mobile coverage" and reduction of smartphone's cost of acquisition
	<ul style="list-style-type: none"> <u>Regulation</u>: non-uniform, hindering digital economy, with MNOs being subject to considerably more scrutiny than their competitors and some Fintech segments being highly unregulated 	<ul style="list-style-type: none"> The Government's approach should promote the digital economy, and thus create a uniform and specific regulatory framework for all fintech products <p><i>"(...) clarifying the regulatory framework regarding consumer protection and financial liability and facilitating the establishment of tech clusters." João Gaspar Marques, Member of the Board of Advisors at the Africa Fintech Summit</i></p>
	<ul style="list-style-type: none"> <u>Investment</u>: Not enough venture capital investment and market dominance by few players 	<ul style="list-style-type: none"> Governments should create and increase incentives to venture capital to foment competition and efficiency <p><i>"Providing tax benefits during the start-ups' first years (...) is also of paramount importance." João Gaspar Marques, Member of the Board of Advisors at the Africa Fintech Summit</i></p>

Fintechs would gain from focusing on customer-product fit, on building partnerships, while improving country knowledge and decision making

Challenges		Recommendations	
Companies	<ul style="list-style-type: none">Partnerships: differences in the organizational structure between fintechs and traditional institutions	<ul style="list-style-type: none">Focus on synergies which might help banks reducing costs and fintechs gaining scale <p><i>“(…) find partnerships with other companies that share your goals and can help you achieve them” João Gaspar Marques, Member of the Board of Advisors at the Africa Fintech Summit</i></p>	
	<ul style="list-style-type: none">Country knowledge: lack of geography-specific knowledge regarding African countries	<ul style="list-style-type: none">Hire country-specific experts	
	<ul style="list-style-type: none">Product: Lack of customer-product fit, lack of focus on customers’ demand and over-focusing on profits	<ul style="list-style-type: none">Focus on the real necessities of customers while having the flexibility to change when customer demands shift <p><i>“(…) be transparent and adaptable and mostly, listen to your user’s feedback” João Gaspar Marques, Member of the Board of Advisors at the Africa Fintech Summit</i></p>	
	<ul style="list-style-type: none">Management decisions: Sometimes decisions are made based on success stories in other countries, and not in the specific country	<ul style="list-style-type: none">Country-specific study and focus, not considering Africa as one cultural identity but multicultural <p><i>“business decisions need to be made within the context of the country the solution will apply to (…) the African market cannot be addressed with a cut and paste solution” Gareth Liddell, Head of Delivery of BNRy in South Africa</i></p>	

We may conclude that Fintechs which partner with existing financial institutions have a higher chance of thriving

Better Product suitability

*“Fintechs that partner with local financial institutions I believe have a **much greater chance of success**. I would recommend finding a country specific partner that can have some influence in terms of making the product suitable for their market and share insights into how the market adopts certain solutions.”*

Gareth Liddell, Head of Delivery of BNRY in South Africa

Greater security and exposure

“There is certainly a lot to benefit from building multi-level partnerships (...) a fintech start-up that is given enough operational freedom while securing financial backing from an established institution can benefit from greater security, exposure, and market outreach”

João Gaspar Marques, Member of the Board of Advisors at the Africa Fintech Summit

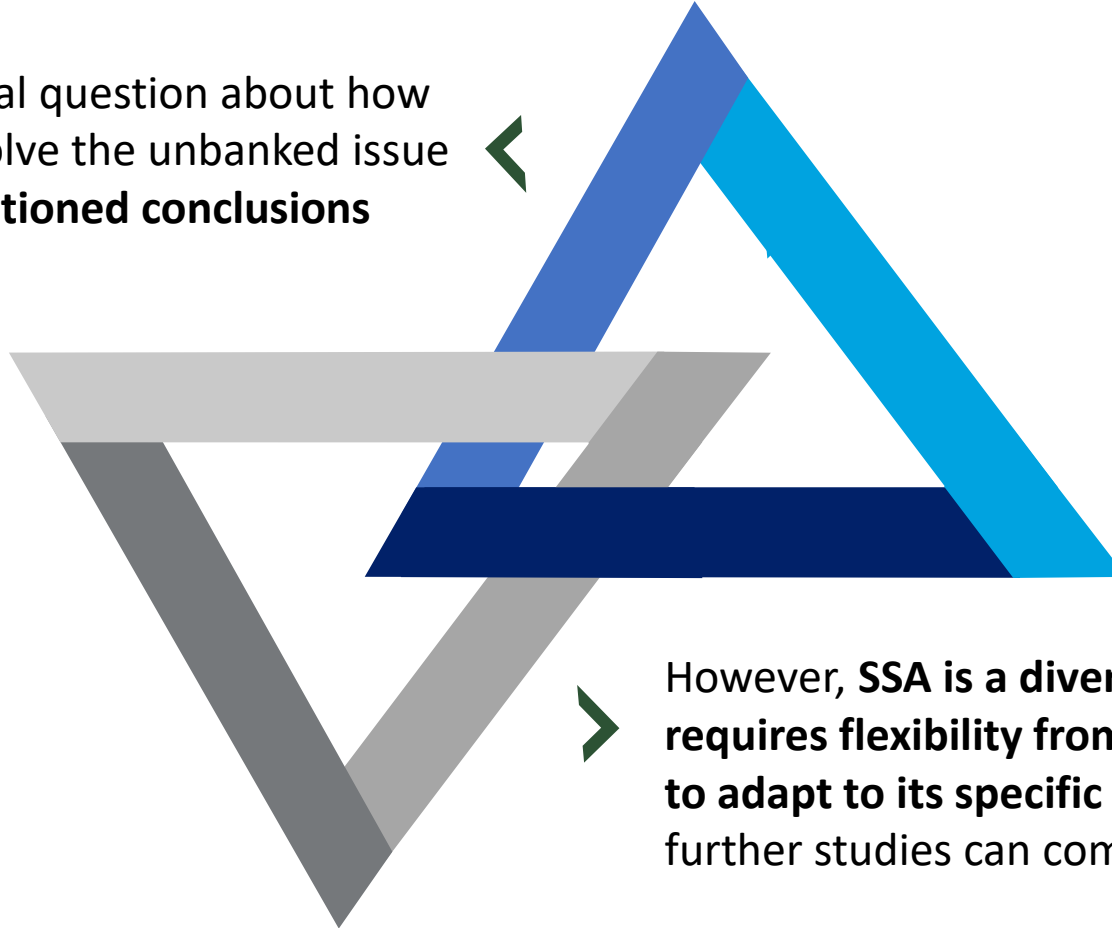
Reduce costs and improve quality

*“(...) some Financial institutions have the advantage of having a **license** that other Fintechs don't have, as well as experience. Yes I believe it would be an advantage and they will have a higher chance of thriving as they can also share costs/overheads to improve the quality of service and get more profits.”*

Ashley Chengeto Rusike, Head of Payment Relations of Mukuru in South Africa

While our conclusions provide the foundations to government and companies' action plans, these should be tailored to meet country-level specific needs

We answered our initial question about how Fintech may help to solve the unbanked issue through the **aforementioned conclusions**



However, **SSA is a diverse region that requires flexibility from Fintech companies to adapt to its specific and local needs**, thus further studies can complement this analysis